

What is claimed is:

1. A method for retransmitting packets in a wireless communications network, comprising:

(a) receiving a retransmission request for a packet having available at least one  
5 retransmission rounds and a number of retransmissions;

(b) determining, from the at least one retransmission rounds and the number of retransmissions, retransmission parameters for the packet;

(c) retransmitting the packet at the determined retransmission parameters; and

(d) updating the number of retransmissions.

2. The method as in claim 1, wherein receiving the retransmission request includes receiving a negative acknowledgement message.

3. The method as in claim 1, wherein determining the retransmission parameters  
5 includes determining that a packet delay margin permits more than one retransmission rounds.

4. The method as in claim 3, wherein retransmitting the packet includes retransmitting one instance of the packet.

5. The method as in claim 1, wherein determining the retransmission parameters includes determining that a packet delay margin permits only one retransmission round.

6. The method as in claim 5, wherein retransmitting the packet includes retransmitting  
25 the instances of the packet equal to the number of retransmissions.

7. The method of claim 1, further including estimating a total number of retransmissions.

8. The method of claim 7, wherein estimating the total number of retransmissions  
30 includes considering a wireless link quality of service and a packet loss rate.

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9. A radio link protocol engine for providing retransmission parameters for a packet in response to an automatic retransmission request; comprising:

a buffer for storing retransmission parameters for a packet having a predetermined per packet quality of service;

5 a radio link protocol automatic retransmission request engine for determining the retransmission parameters for the packet as a function of the predetermined per packet quality of service and a wireless link quality of service.

10. The radio link protocol engine of claim 9, wherein the radio link protocol automatic retransmission request engine estimates a total number of retransmissions for the packet from the wireless link quality of service.

11. The radio link protocol engine of claim 9, wherein the radio link protocol automatic retransmission request engine estimates a number of available retransmission rounds for the packet.

12. The radio link protocol engine of claim 9, wherein the retransmission parameters include a number of retransmissions for a retransmission round .

13. The radio link protocol engine of claim 9, wherein the radio link protocol automatic retransmission request engine includes a retransmission counter.

14. A wireless access network, comprising:

a scheduler for scheduling a packet, having a predetermined per packet quality of service, for transmission over a radio link having a predetermined wireless link quality of service;

a radio link protocol engine for providing retransmission parameters for the packet in response to an automatic retransmission request, the radio link protocol engine including a buffer for storing retransmission parameters for the packet; and a radio link protocol automatic retransmission request engine for determining the retransmission parameters for

the packet as a function of the predetermined per packet quality of service and the predetermined wireless link quality of service.

15. The wireless access network of claim 14, wherein the radio link protocol automatic  
5 retransmission request engine estimates a total number of retransmissions for the packet from  
the wireless link quality of service.

16. The wireless access network of claim 14, wherein the radio link protocol automatic  
retransmission request engine estimates a number of available retransmission rounds for the  
10 packet.

17. The wireless access network of claim 14, wherein the retransmission parameters include a number of retransmissions for a retransmission round .

18. The wireless access network of claim 14, wherein the radio link protocol engine automatic retransmission request engine includes a retransmission counter.